CHAPTER 3

THRESHER-RUN PEAS

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3.1 DEFINITIONS

Thresher-Run Dry Peas. Dry peas from which the dockage has not been removed.

Whole Dry Peas. Threshed seeds of the garden type pea plant (Pisum sativum L. and Pisum sativum var. arvense (L.) Poir.), which after the removal of dockage, contain 50.0 percent or more of whole peas and not more than 10.0 percent of foreign material.

If a sample does not meet the definition of Whole Dry Peas, examine it further to determine if it is:

a. Another commodity or grain for which standards have been established; or

b. "Not Standardized Commodity." No further analysis is necessary on a sample designated as "Not Standardized Commodity" unless a specific factor test is requested.

3.2 FACTORS AND FACTOR DESIGNATIONS

Thresher-run dry peas shall be inspected for factors only, without reference to grade.

Thresher-run dry peas may be inspected for: class; defective peas and foreign material; dockage; color description; and moisture.

The factor designation for all classes of thresher-run peas may include the name of the class; percentage of dockage and type of sieve used in making the determination; the percentage of weevil-damaged peas, heat-damaged peas, damaged peas, other classes, bleached peas, split peas, shriveled peas, peas with cracked seed coats, foreign material, and the computed total percentage thereof; the color description; and the percentage of moisture.

NOTE: **Upon applicant request, thresher-run peas may be graded, after the removal of dockage, to determine what the peas would have graded after processing (dockage removed). The percent of dockage will be determined with the use of FGIS approved sieve(s) and will be recorded in the factor results section of the certificate to the nearest tenth percent. The grade will be in the form of a statement (see below) placed in the remarks section of the certificate.**

"After the removal of dockage, this thresher-run lot would have graded U.S. No. (grade) (Smooth Green/ Smooth Yellow) Dry Peas under the U.S. Standards for dockage-free peas except for (e.g. foreign material, bleached peas, etc)." Insert only the factors that would have a bearing on the grade.

3.3 WORK RECORD

Record the results of all tests and findings clearly and accurately on a laboratory ticket or similar form. This will be used as the source of the information reported on the inspection certificate. FGIS personnel must use either form FGIS-981, "Pea and Lentil Laboratory Ticket" or form FGIS-982, "Pea and Lentil Sample Ticket." Cooperators must use a similar form.

3.4 REPRESENTATIVE PORTION

A specified quantity of peas divided out from the representative sample (refer to Chapter 2, sampling chapter) by means of an FGIS approved device.

3.5 WORK SAMPLE

A representative portion of peas (approximate size - 1,000 grams) that is used to make all such determinations required for a particular class of peas.

3.6 FILE SAMPLE

a. A representative portion of peas (approximate size - 1,000 grams) that may be used in conjunction with the work sample, when needed. File samples may also be used for monitoring, appeal inspection and board appeal purposes.

b. Retain file samples in appropriate containers for the required retention period. After maintaining for the required period, dispose of the file samples in accordance with established procedures. See FGIS Directive 9170.13, "Uniform File Sample Retention System," for additional information.

3.7 PERCENTAGES

a. Percentages are determined on the basis of weight and are rounded as follows:

(1) When the figure to be rounded is followed by a figure greater than or equal to five, round to the next higher figure; e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5.

(2) When the figure to be rounded is followed by a figure less than five, retain the figure; e.g., report 8.34 as 8.3 and 1.22 as 1.2.

b. Record factor results to the nearest tenth percent.

3.8 LABORATORY SCALES

Weigh work portions and separations from work portions using an approved grain test scale with an appropriate division size. See Equipment Handbook, Chapter 2.

3.9 PRELIMINARY EXAMINATION

a. The sampler must: (1) observe the uniformity of the peas as to class, quality and condition; (2) make the determination for "Heating;" (3) draw the representative sample; and (4) report relevant information to the inspector.

b. The inspector must review the sampler's remarks/information. If the inspector has questions or doubts the representativeness of the sample, he or she must contact the sampler and obtain the needed information or make arrangements to obtain another sample.

3.10 BASIS OF DETERMINATION

All factor determinations must be made upon the basis of the dry peas after the removal of dockage with the following exceptions:

Dockage in thresher-run dry peas must be determined upon the basis of the peas as sampled.

Color must be determined after the removal of dockage, defective peas, and foreign material.

Defects in peas must be scored in accordance with the order shown in section 402(d) and once an individual pea is scored in a defective category, it must not be scored for any other defect. Percentages for all categories of defects must be calculated on the basis of the total weight of the sample analyzed for defective peas.

NOTE 1: When peas that are offered for inspection as one lot are found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of peas, the lot must be sampled on the basis of two or more (approximately) equal-sized sublots of 10,000 containers or 1,000,000 pounds or less. Inspect each sublot separately.

NOTE 2: When peas that are offered for inspection as one lot are subsequently found to contain portions that are distinctly different in quality or condition, the peas in each portion must be inspected separately.

NOTE 3: Seed peas are not considered standardized peas and may, upon request, be inspected according to applicant specifications.

Follow a systematic factor examination procedure. The order of procedure may vary depending on the quality of the peas and the tests that are requested.

A general order of procedure is as follows:

(1) Review the information on the sample ticket.

(2) Examine the representative sample for odor, broken glass and metal fragments.

(3) Use an FGIS approved divider to process the representative sample into two representative portions: a work sample and a file sample.

(4) Remove the dockage from the work sample.

(5) Examine the work sample for class and distinctly low quality.

(6) Upon request, determine or estimate the percent of small peas, split peas or other material that comprise the dockage. When this breakdown is not requested, determine the percent of total dockage.

(7) Upon request, divide out approximately 350 grams from the dockage-free portion and determine the percent of moisture.

(8) Divide out another 250-gram portion from the dockage-free portion and determine the percent of defective peas, other classes and foreign material.

(9) After removing the defective peas and foreign material from the portion, examine the portion for color.

3.11 TOTAL DOCKAGE, DEFECTS, AND FOREIGN MATERIAL

The percentage of total dockage, total defects, and foreign material must be computed on the basis of the sample as a whole and be shown on the certificate as Total Dockage, Defects and Foreign Material.

a. Compute the percent of total dockage, total defects and foreign material as follows:

(1) Determine the weight of the work sample.

(2) Determine the weight of the dockage in the work sample (e.g., 120 grams).

(3) Calculate the percent of dockage (e.g., 120 g) 1000 g = 12 %).

(4) Calculate the percent of dockage-free peas (e.g., 100 % - 12 % = 88 %).

(5) Determine the weight of the defective peas and foreign material portion (e.g., 250 grams).

(6) Determine the weight of the defective peas and foreign material (e.g., 12.5 grams).

(7) Calculate the percentage of defective peas and foreign material (e.g., 12.5 g ÷ 250 g = 5 %).

(8) Adjust the percentage of defective peas and foreign material by the base (e.g., 5 % x 88 % = 4.4 %).

(9) Calculate the percentage of total dockage, defects, and foreign material (e.g., 12 % + 4.4 % = 16.4 %).

b. Record the percent of "total dockage, defects, and foreign material" on the work record and results section of the certificate to the nearest tenth percent.

3.12 MOISTURE

Water content in whole peas as determined by an approved device according to procedures prescribed in FGIS instructions.

The moisture of thresher-run dry peas is determined by using the GAC2500-UGMA and Perten AM 5200-A instruments utilizing the calibrations of the predominate type of pea (see FGIS Directive 9180.61).

Basis of Determination. Determine moisture on a representative portion of approximately 650-grams, after the removal of dockage.

The procedures for performing a moisture determination using the GAC2500-UGMA and Perten AM 5200-A meters are described in the Moisture Handbook.

Certification. Record the percent of moisture on the work record and results section of the certificate to the nearest tenth to the nearest tenth percent.

NOTE: To determine moisture on Marrowfat Peas use the Smooth Green Dry Pea moisture chart.

3.13 TEST WEIGHT PER BUSHEL

NOTE: This factor is not provided for under the United States Standards for Whole Dry Peas, but may be determined upon request.

a. Determine test weight per bushel on a representative portion of sufficient size to overflow the kettle, before the removal of dockage.

b. See Chapter 1 of the Grain Inspection Handbook, Book II, for information about performing test weight per bushel determinations.

c. Record the test weight per bushel on the work record and results section of the certificate to the nearest tenth of a pound.

3.14 CLASS

Peas are divided into the following classes:

Smooth Green Dry Peas. Dry peas which have smooth seed coats and green cotyledons and contain not more than 1.5 percent of other classes.

Smooth Yellow Dry Peas. Dry peas which have smooth seed coats and yellow cotyledons and contain not more than 1.5 percent of other classes.

Wrinkled Dry Peas. Dry peas which have wrinkled seed coats and contain not more than 1.5 percent of other classes.

Mottled Dry Peas. Dry peas of the Austrian winter pea type and other peas which have colored or distinctively mottled seed coats which contain not more than 1.5 percent of other classes.

Miscellaneous Dry Peas. *Dry peas that do not meet the criteria for any other class of dry peas and contain not more than 1.5 percent of other classes. (The grade limits for the factor Bleached peas must not apply to Miscellaneous Dry peas, except for Marrowfat-type dry peas).*

Mixed Dry Peas. *Any mixture that does not meet the requirements for the classes Smooth, Green, Smooth Yellow, Wrinkled, or Mottled Dry peas; or any mixture of different types of Miscellaneous Dry peas.*

NOTE: Thresher-run peas offered as "seed peas" must be certified as not-standardized commodity. Do not identify "seed peas" by a class designation; instead show not-standardized commodity on the certificate grade line and in the remarks section record either "Peas" or "Seed Peas".

a. Class is usually determined by a cursory examination of the work sample as a whole.

b. When a detailed examination is necessary, make this determination on a representative portion of approximately 250 grams of dockage-free peas.

c. If the peas contain more than 1.5 percent of "other classes:"

(1) Grade the peas “Mixed Dry Peas,” and record the percent of each class of peas to the nearest tenth percent on the work record and result section of the certificate.

d. Miscellaneous dry peas are not otherwise classified in the standards and may be classified and designated according to the commonly accepted commercial name for the pea (e.g., Marrowfat peas).

3.15 ODOR

a. Determine odor on the basis of the lot as a whole or the representative sample as a whole.

(1) Off-odors (i.e., musty, sour, and commercially objectionable odors) are usually detected at the time of sampling.

(a) If there is any question as to the odor when the sample is being taken, put part of the sample into an airtight container to preserve its condition for further examination in the laboratory.

(b) Return the portion to the sample before other tests are made.

(2) A **musty** odor is any odor that is earthy, moldy, and ground-like. Do not confuse a burlap bag odor with a musty odor.

(3) A **sour** odor is any odor that is rancid, sharp, or acrid.

(4) A **commercially objectionable** odor is any odor that is not normal to dry peas and that, because of its presence, renders the dry peas unfit for normal commercial usage; e.g., animal hides, fertilizer, oil products, skunk, smoke, fire-burnt, and decaying animal and vegetable matter odors.

(5) Fumigant or insecticide odors are considered commercially objectionable odors if they linger and do not dissipate. When a sample of peas contains a fumigant or insecticide odor that prohibits a determination as to whether any other odor(s) exists, apply the following guidelines:

(a) Original Inspections. Allow the work portion to aerate in an open container for a period not to exceed 4 hours.

(b) Appeal and Board Appeal Inspections. Allow unworked file samples and new samples to aerate in an open container for a period not to exceed 4 hours. The 4-hour aeration requirement does not apply when the original work portion was aerated and retained as the final file.

(c) Final Action. Consider the sample as having a commercially objectionable odor if the fumigant or insecticide odor persists based on the above criteria.

b. When peas are determined to be musty, sour, or have a commercially objectionable odor, record the type of odor on the work record and in the result section of the certificate.

3.16 HEATING

a. Determine heating on the basis of the lot as a whole.

(1) When high temperatures develop in dry peas as the result of excessive respiration, such peas are heating.

(2) Heating peas usually give off a sour or musty odor.

(3) Care should be taken never to confuse peas that are warm due to storage in bins, cars, or other containers during hot weather with peas that are heating from excessive respiration.

b. When applicable, show the term "Heating" on the work record and in the result section of the certificate.

3.17 DOCKAGE

Dockage. Small, underdeveloped dry peas, pieces of dry peas, and all matter other than dry peas which can be removed readily by the use of an FGIS approved device.

a. Determine dockage on a representative portion of approximately 1,000 grams.

b. Remove the dockage from the peas by sieving the representative portion with the appropriate size sieve. For Mixed dry peas, use the sieve prescribed for the class of peas that predominates the mixture.

NOTE: If official personnel determine that the prescribed sieve removes too many small, fully developed peas (not screenings), they may elect to use a slightly smaller sieve. Furthermore, if they determine that the prescribed sieve allows too many underdeveloped peas to remain with the "clean" peas, they may elect to use a slightly larger sieve. If the peas are offered for inspection as "seed peas," the applicant for inspection may specify the sieve size to be used.

Table 1 - Prescribed Sieves

Classes	Sieves
Mottled Dry Peas Smooth	9/64" x 3/4"
Green Dry Peas Smooth	11/64" x 3/4" (oblong or slotted)
Yellow Dry Peas	11/64" x 3/4" (oblong or slotted)
Wrinkled Dry Peas	11/64" x 3/4" (oblong or slotted)
Miscellaneous Dry Peas	Use appropriate size sieve

(1) Nest the sieve on top of a bottom pan.

(2) Place the sieve in a mechanical grain sizer so that the slotted perforations are parallel to the motion of the sizer and set the timer to 20.

(3) Put the representative portion in the center of the sieve and actuate the sizer.

NOTE: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation twenty times.

(4) Return the material remaining in the perforations of the sieve to the portion that remains on top of the sieve.

(5) Consider all material that passed through the sieve as dockage. Pick out large material, such as stems and pods with/without peas inside, from the peas remaining on top of the sieve and add it to the dockage. Do not remove the peas from the pods.

(6) Remove the dockage from the remainder of the representative portion in the same manner.

c. Record the percent of dockage, with the size of sieve(s) used in the determination, on the work record and result section of the certificate to the nearest tenth percent.

d. **Upon applicant request**, determine by (handpicking the entire separation) or estimating the percent of small peas, split peas, and other material that comprise the dockage; i.e., a dockage breakdown. The percent of grain in the "other material" dockage may also be estimated or determined.

(1) The breakdown of dockage may be **estimated** either by using hand sieves or by handpicking a representative portion of the dockage separation.

NOTE: Hand adjusting of the material through or over sieves is not required when the breakdown is estimated.

(2) Record the percent of small peas, split peas, and other material on the work record and the certificate to the nearest tenth percent. If an "estimated" dockage breakdown was performed, show the statement "Estimated using hand sieves" or, when handpicked, "(Estimated)" immediately following the results.

(3) When requested, record the percent of grain in the "other material" dockage on the work record and the certificate to the nearest whole percent, and show the following statement on the certificate. "Other material includes (__) percent of grain."

e. **Upon applicant request**, reclaim any readily identifiable and separable pea material present in the dockage.

(1) After mechanically removing and recording the percent of dockage present in the thresher-run pea sample, reclaim any small peas, split peas, and recognizable pea pieces that passed through the prescribed dockage sieve.

NOTE: A smaller sized sieve may be used as an aid in the reclaiming process to minimize any hand-adjustment that may be necessary.

(2) Determine other material and foreign material according to applicable procedures, subtract the sum from 100, and round to the nearest whole percent. Record the results to the nearest whole percent on the work record, and in the result section of the certificate.

Upon request, when providing information for the Farm Service Agency, Loan Deficiency Program, show the following special statement in the "Remarks" section of the certificate.

"Sample contains (%) of whole, broken, or pieces of peas."

3.18 DEFECTIVE PEAS

The categories of defective peas must be weevil-damaged peas, heat-damaged peas, damaged peas, other classes, bleached peas, split peas, shriveled peas and peas with cracked seedcoats.

The percentage of defective peas and foreign material must be combined and shown on the certificate as Total Defects and Foreign Material.

a. Determine defective peas on a representative portion of approximately 250 grams of dockage-free peas.

b. Score defects in the following order: Weevil-damaged, heat-damaged, damaged, other classes, bleached peas, split peas, shriveled peas and peas with cracked seedcoats.

(1) Once an individual pea is scored, do not score it for any other defect but retain it as part of the sample for purposes of determining the percentage of other defects in the sample.

(2) Record the percent of each type of defect on the work record and the certificate to the nearest tenth percent.

c. Add the percentages of each type of defect and record the total defective peas on the work record and the certificate to the nearest tenth percent.

d. Add the percent of total defective peas to the percent of foreign material and record the sum as "total defects and foreign material" on the work record and the certificate to the nearest tenth percent.

NOTE: For the classes of Smooth Seeded peas (but not Seed Peas), only the percentage of peas with cracked seedcoats in excess of 3.0 percent will be included in the factor "Total Defects and Foreign Material." (EXAMPLE: In a sample containing 3.2 percent of peas with cracked seedcoats, only 0.2 percent would be included in the Total Defects and Foreign Material.) For Seed Peas and Wrinkled peas, include all peas with cracked seedcoats with Total Defects and Foreign Material.

3.19 WEEVIL-DAMAGED PEAS

Weevil-Damaged Peas. Whole and pieces of dry peas which are distinctly damaged by the pea weevil or other insects.

a. Determine weevil-damaged peas on a representative portion of approximately 250 grams of dockage-free peas.

(1) Weevil-eaten damage. Peas which have been eaten by weevils to the extent that the peas are light in weight and can be removed readily from the sound peas in the processing plant by either a gravity machine or brine solution. (See VRI Peas – 1.6 Weevil Damage.)

(2) Pinhole damage.

(a) Peas which have been stung by the pea weevil or other insect, and the damage extends into the cotyledon. Peas that have been "marked" by insects, but where the sting does not penetrate the cotyledon, are not considered weevil-damaged peas.

(b) Peas containing dead larvae in which the cavities are small (e.g., about dull pencil lead size). (See VRI --Peas - 1.6 Weevil Damage.)

NOTE: Any pea that contains or has contained a weevil or larvae of the pea weevil is considered weevil-damaged.

(c) Upon request, show the percent of pinhole damage on the pan ticket and grade certificate. Many processors need this information because pinhole damaged peas cannot be removed in the normal cleaning operation.

b. Weevil damaged peas are usually bleached in appearance and show a discoloration window which indicates the presence of larvae within the pea. There are two methods of determining weevil damage.

(1) Visual Examination.

(a) Examine each pea for evidence of weevil stings or boring.

(b) If a pea has been stung, cut the pea to determine the extent of the penetration.

(2) Brine Solution Test.

NOTE 1: Complete all other factor examinations before soaking the peas in a brine solution.

NOTE 2: This method is not satisfactory for wrinkled peas as the wrinkles form pockets which may cause many sound peas to float along with the weevil-damaged peas.

(a) Place a wire basket (a tube 6 inches wide by 7 inches deep with an eight-mesh-per-inch screen) in a stone jar. Fill the stone jar about half full of water and to this add calcium chloride until a specific gravity of 1.225 is reached.

(b) Pour the representative portion into the screen and stir so that all air pockets are eliminated.

(c) Use a tea strainer-type ladle to lift out the peas which float on top of the solution. Peas that float are normally weevil-damaged, but this should be confirmed by visual examination.

(d) Skim off the peas that float and thoroughly rinse them under running water.

(e) Partially dry the "floaters" on blotter trays. Then place the peas in heater trays (wire screens having 1/8-inch openings), set them in a heater/dryer until all the surface moisture has disappeared, and then visually examine to confirm weevil damage.

c. Record the percent of weevil-damaged peas (total of those found by visual examination and by brine solution test) on the work record and results section of the certificate to the nearest tenth percent.

3.20 HEAT-DAMAGED PEAS

Heat-Damaged Peas. Whole and pieces of dry peas which have been materially discolored as a result of heating.

a. Determine heat-damaged peas on a representative portion of approximately 250 grams of dockage-free peas.

b. Record the percent of heat-damaged peas on the work record and the certificate to the nearest tenth percent.

3.21 DAMAGED PEAS

Damaged Peas. Whole and pieces of dry peas which are distinctly: (1) Damaged by frost, weather, disease, heat (other than materially discolored as a result of heating), or other causes; and (2) soiled or stained by dirt (not applicable for the class Wrinkled Dry peas).

Damaged peas must not include weevil-damaged peas or heat-damaged peas.

a. Determine damaged peas on a representative portion of approximately 250 grams of dockage-free peas.

b. The major types of damaged peas are as follows:

(1) Dirt and Grime Damaged Peas. Dirt and grime damaged peas include peas and pieces of peas with dirt or grime (including nightshade juice bag markings/ink stains) adhering to the seed coat equal to or greater than shown on (See VRI - Peas - 1.1 Damage (A. Dirt, B. Grime).)

NOTE: Dirt and grime damage does not apply to the class Wrinkled Dry peas or Smooth Seeded peas grown for seed purposes.

(2) Frost Damaged Peas. Peas and pieces of peas which have been damaged by frost to the extent that the cotyledon has been discolored green with an area of coverage and intensity equal to or greater than shown on (See VRI - Peas - 1.8 Frost Damage). Frost damage is indicated by the appearance of the whole pea; but the actual determination for damage must be made on the basis of the opened pea.

(3) Mold/Mildew Damaged Peas. Peas and pieces of peas which contain mold/mildew equal to or greater than that shown on (See VRI - Peas - 1.4 Mold/Mildew Damage). Mold/Mildew may appear on or around the hilum, the surface, and/or the cotyledon. A pea that contains any mold/mildew on the cotyledon must be considered damaged.

(4) Sprout Damaged Peas. Peas and pieces of peas which are sprouted in which the sprout is equal to or greater than that shown on (See VRI - Peas - 1.5 Sprout Damage).

(5) Badly Shriveled Peas. Peas that are shriveled and discolored to a deep brown or reddish cast.

(6) Worm-Eaten or Worm-Cut Peas. Peas and pieces of peas which have been chewed by insect larvae; not to be confused with weevil-bored peas containing insect webbing or filth. Any chewed pea is considered damaged.

(7) Chalky Peas. Peas that have a white spot on the surface of the cotyledon caused by unusual weather conditions, some harvesting practices, and/or Lygus bug stings. (Do not scrape the cotyledon of suspect peas, merely remove their seedcoats.) Chalky peas are considered damaged peas, not weevil-damaged peas. (See VRI - Peas/Split Peas -1.0 Damage (Chalky)).

(8) Damaged by Heat. Peas that have been damaged by heat to the extent that the cotyledon has been discolored equal to or greater than that shown on (See VRI - Peas/Split Peas - 1.3 Damaged By Heat.)

(9) Bacterium/Fungal Stain. Peas and pieces of peas that are stained by bacterium and/or fungal species to the minimum intensity shown at the center of the pea and in which the discoloration covers 50 percent or more of the pea's surface are considered damage. These conditions can affect see development and color, with severely infected seeds appearing much smaller than normal and having purple to pink discolored seed coats. (See VRI – Peas – 5.3 Bacterium/Fungal Stain.)

(10) Weather Damage. Peas and pieces of peas in which the surface area is discolored to the minimum intensity and coverage shown are considered damage. (See VRI – Peas – 5.4 Weather Damage.)

c. Record the percent of damaged peas on the work record and result section of the certificate to the nearest tenth percent.

3.22 OTHER CLASSES

Other Classes. Whole and pieces of dry peas which are of a contrasting color or which differ materially in shape, or other characteristics from the predominating class; and in the case of Miscellaneous Dry peas, which differ from the predominating type.

a. Determine other classes on a representative portion of approximately 250 grams of dockage-free peas.

b. Mixed peas rarely appear on the market. Slight mixtures sometimes occur affecting the quality or grade of peas. This is especially true of peas of widely different types.

(1) Examples of mixtures of other classes are:

a. Smooth Green Dry Peas mixed with Smooth Yellow Dry Peas or vice versa.

b. Marrowfats mixed with either Smooth Green or Yellow Dry Peas, or vice versa.

(2) Wrinkled varieties found in smooth varieties always function as other classes even though the cotyledon and seedcoat may be the same color as the smooth peas. Conversely, smooth peas function as other classes when found in the wrinkled varieties.

c. Record the percent of other classes on the work record and result section of the certificate to the nearest tenth percent.

3.23 BLEACHED PEAS

Bleached Peas. Whole and pieces of dry peas of green-colored varieties which are bleached distinctly yellow in color or peas of yellow-colored varieties which are bleached distinctly green in color.

NOTE: The grade limits for the factor Bleached peas must not apply to Wrinkled, Mottled and/or Miscellaneous Dry peas, except for Marrowfat-type dry peas.

The factor Bleached peas is applicable to Mixed peas.

a. Determine bleached peas on a representative portion of approximately 250 grams of dockage-free peas.

b. Bleached peas are usually caused by adverse weather conditions prior to and during harvest, or by storage.

c. Bleached Green peas are green colored varieties of peas with one-eighth or more of the surface distinctly bleached to a white or light creamy yellow color (See VRI - Peas/Split Peas - 2.0 Bleached (Green Peas)). Bleached Yellow peas are yellow-colored varieties of peas with one-eighth or more of the surface distinctly bleached to a greenish color (See VRI - Peas/ Split Peas - 2.1 Bleached (Yellow Peas)).

NOTE: To facilitate the determination of this factor, the seedcoat may be broken or removed to enable a better examination of the cotyledon.

d. Record the percent of Bleached peas on the work record and result section of the certificate to the nearest tenth percent.

3.24 SPLIT PEAS

Split Peas. The halves or smaller pieces of dry peas and dry peas in which the halves are loosely held together.

a. Determine split peas on a representative portion of approximately 250 grams of dockage-free peas.

b. Record the percent of split peas on the work record and result section of the certificate to the nearest tenth percent.

3.25 SHRIVELED PEAS

Shriveled Peas. Dry peas which are distinctly shriveled in contrast to the natural shape and appearance of normally developed peas.

a. Determine shriveled peas on a representative portion of approximately 250 grams of dockage-free peas.

b. Shriveled (smooth-type) peas are usually discolored, misshapen, deeply dimpled, and/or withered in appearance. (See VRI - Peas - 5.0 Shriveled (Smooth)).

c. Care should be taken not to confuse "normal" wrinkled peas for shriveled peas. Wrinkled peas are considered shriveled if they are either slightly shriveled and distinctly discolored (caramelized), or slightly discolored with severe dimpling in the seedcoat. (See VRI - Peas - 5.2 Shriveled (Wrinkled)).

d. Record the percent of shriveled peas on the work record and result section of the certificate to the nearest tenth percent.

3.26 PEAS WITH CRACKED SEEDCOATS

Peas with Cracked Seedcoats. Dry peas having readily discernible cracked seedcoats or peas which have all or a part of the seedcoat removed, and broken peas which are more than one-half of a whole pea.

NOTE: For the classes of Smooth Seeded peas (but not "Seed Peas"), only the percentage of peas with cracked seedcoats in excess of 3.0 percent must be included in the factor "Total Defects and Foreign Material." (EXAMPLE: In a sample containing 3.2 percent of peas with cracked seedcoats, only 0.2 percent would be included in the Total Defects and Foreign Material.) For "Seed Peas" and Wrinkled Peas, include all peas with cracked seedcoats with Total Defects and Foreign Material.

a. Determine peas with cracked seedcoats on a representative portion of approximately 250 grams of dockage-free peas.

NOTE: When the brining method is used to determine weevil-damaged peas, do not use the brined portion to determine peas with cracked seedcoats.

b. Peas with growth stress cracks which are usually tight and next to the hilum function as cracked seedcoats.

c. Do not consider the peas to be "peas with cracked seedcoats" if the cracked seedcoats can only be detected by rubbing the peas between your fingers. (See VRI - Peas - 3.0 Cracked Seed Coats.)

d. Record the percent of peas with cracked seedcoats on the work record and result section of the certificate to the nearest tenth percent.

3.27 FOREIGN MATERIAL

Foreign Material. All matter other than dry peas, including detached seedcoats, which cannot be readily removed in the determination of dockage.

a. Determine foreign material on a representative portion of approximately 250 grams of dockage-free peas.

NOTE: Mud lumps, or stones that are too large to pass through the sieve used in making the dockage determination should be handpicked from the peas and added to the dockage. Mud lumps or stones that are approximately the size and shape of peas should be considered foreign material.

Kernels of corn that remain on top of hand sieves when determining dockage function as foreign material and corn passing through the sieve is dockage.

b. Record the percent of foreign material on the work record and result section of the certificate to the nearest tenth percent.

3.28 COLOR

Good Color Peas. Dry peas that in mass are practically free from discoloration and have the natural color and appearance characteristics of the predominating class.

Fair Color Yellow Peas. Dry yellow peas that in mass are lightly to moderately discolored as a result of storage or any other cause to the extent they cannot be considered of good color.

Poor Color Peas. Dry peas that in mass are distinctly off-color from the characteristic color of the predominating class as a result of age or any other cause.

a. Determine color on a representative portion of approximately 250 grams after the removal of dockage, defective peas and foreign material.

b. Available interpretive line prints (ILP) serve as the basis for this general appearance assessment.

(1) Peas must be considered as "poor color" if they are not of a good natural color or are stained to an extent that seriously affect the appearance of the lot.

(2) Peas that are discolored by dust or a slight amount of dirt, which can be removed by processing methods, must not be considered as "poor color."

c. When thresher-run peas are determined to be other than "good color," record this information on the work record and result section of the certificate.

3.29 ANIMAL FILTH

a. Determine animal filth on the basis of the lot as a whole and/or the representative sample as a whole.

b. Sufficient evidence of animal filth must be:

(1) Two or more rodent or bird pellets in the lot as a whole or the work sample; or

(2) One rodent or bird pellet in the work sample and one or more in the file sample.

(3) One or more deer/elk pellet(s) in the lot as a whole or the work sample.

c. When applicable, show the term "Animal Filth" on the work record and result section of the certificate.

3.30 BROKEN GLASS

a. Determine broken glass on the basis of the lot as a whole and/or the representative sample (before the removal of dockage) as a whole.

b. The presence of <u>any</u> broken glass (regardless of the size or amount) in the lot as a whole, work sample, or sample as a whole, is considered sufficient evidence of broken glass.

c. When applicable, show the term "Broken glass" on the work record and result section of the certificate.

3.31 METAL FRAGMENTS

a. Determine metal fragments, such as metal filings or metal shavings, on the basis of the lot as a whole and/or the representative sample (before the removal of dockage) as a whole.

b. Sufficient evidence of metal fragments must be:

(1) Two or more metal fragments in the lot as a whole or the work sample; or

(2) One metal fragment in the work sample and one or more in the file sample.

c. When applicable, show the term "Metal fragments" on the work record and result section of the certificate.

3.32 DISTINCTLY LOW QUALITY

Distinctly Low Quality. Whole dry peas which are obviously of inferior quality because they are stained by an unknown foreign substance or because they otherwise contain a known toxic substance(s) or an unknown foreign substance(s) or because they are in an unusual state or condition, and which cannot be graded by use of the other grading factors provided in the standards.

a. Determine distinctly low quality on the basis of the dockage-free sample as a whole.

b. Peas that are obviously affected by unusual conditions which adversely affect the quality of the peas, such as unknown foreign substance, or treatment with a fungicide, must be considered to be distinctly low quality.

c. Record the words "Distinctly Low Quality" and the reason(s) why in the result section of the certificate.